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DEVELOPMENT AND PROBABLE LIFE OF GAS POOL AT


McKEESPORT, PENNSYLVANIA

By

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The excitement in Western Pennsylvania 60 years ago when oil was first obtained in a drilled well was so great that families drove for miles to see the natural curiosity. As affecting numbers of people the excitement was small in comparison with that now filling the minds of a dense population in Allegheny County. The city of McKeesport has been roaring for several weeks over the bringing in of a mighty gas well almost within the city limits. When I visited the city early this month to investigate the present development of the new gas pool and get a line on its possibilities, among the things that attracted my attention were the eager discussions on street corners, and the windows of store after store decorated with yellow land maps or pictures of derricks with a notice that "the last chance to buy stock is at hand". In the field itself long rows of automobiles line the ditches and the roads are filled with trucks loaded with lumber and machinery to be used in opening new wells. There is a hustle and bustle in and about McKeesport like that of a mushroom oil town in the Gulf Coast field. The excitement began on August 29 when a well drilled to the Speechley sand just south of McKeesport came in with a yield of 4 million cubic feet per day and quickly increased the production to 62 million feet.

The field centers along a ridge between Snake Hollow and the valley of Long Run and has extended through Versailles along the bank of Youghiogheny River a few miles above McKeesport. Long Run Valley is occupied with farms and because the land is held in large acreages, wells there are widely spaced. Snake Hollow, nearer the city, has been subdivided into lots, many of which are occupied by houses.



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Every lot in the hollow is a possible leasehold and may form the basis for one of the gas companies whose advertising decorates some of the McKeesport store windows. Where a lot is too small to accommodate both house and well the house is pulled down or moved off. The number of wells is increasing daily and one feels the air charged with the incentive of a race to see who can be next to complete a hole to the gas-bearing sand.

The active development is located on the crest of what is probably the southward continuation of the Murrysville or Roaring Run anticline, a long arch extending northeast from Monongahela City to the center of Armstrong County. The general position of this anticline has been known for fifty years or more and many wells have been drilled on all parts of it, gas being reached in the Murrysville and other sands at depths of less than 2,000 feet. The Murrysville sand is from 1700 to 1900 feet below the Pittsburgh coal. Some of the deeper sands, such as the Thirty foot and Sixth sand, have also yielded one or two millions of feet of gas in certain of the wells. Below the Sixth sand is the Elizabeth sand and then below an interval of several hundred feet of non-paying strata, lies the Venango group, the highest of which is the Speechley sand. The large flow of gas now causing all the excitement in the McKeesport district comes from this sand. The Venango group includes also the Tione and the First and Second Bradford sands. The Speechley sand lies about 3280 feet below the Pittsburgh bed in this area. As practically all the wells start below the Pittsburgh coal, the Speechley sand is reached at less than 3300 feet.

As a matter of fact the Pittsburgh coal, had it not been removed by erosion, would now be found a little more than 400 feet above the level of the B. & O. Railroad from the mouth of Long Run to Boston Bridge, so that in that area the top of the Speechley sand should be found at about 2880 feet below the level of the railroad tracks--less near the axis of the anticline and more as the distance from the axis increases.

From the data at hand, it appears that the anticline is broad and flat on top with slight undulations that may be of considerable importance in determining the location of the gas reservoirs. The axis of the anticline runs through Belle Bridge and follows in a general way the ridge lying northwest of Long Run and Jacks Run and crosses the Lincoln Highway not far east of the Allegheny-Westmoreland County line stone. There are some slight indications that the anticline may split to the northeast of the Lincoln Highway. Only a detailed survey of the whole field requiring several months work would determine the exact structure. From this flat crest the arch is flanked with broad, sloping shoulders and then turns down sharply at either side as is plainly seen in the cliffs beside Walnut Street between McKeesport and Crystal Park. The arch rises toward the northeast. At Belle Bridge the Pittsburgh coal is less than 1150 feet above tide. Along the Lincoln Highway the same bed reaches 1240 feet above tide. At Kiskiminitas River the coal bed, if present, would have an elevation of about 1900 feet. There is no structural reason why the Speechley sand should not prove productive along the whole axis and possibly along axes of other anticlines of the region. Wells in the Speechley sand in Armstrong county have yielded from 1,000,000

to 30,000,000 cubic feet of gas a day. It may be doubted if many wells will be found that will yield as largely as the Foster Hamilton No. 3 which is doing better than fifty million cubic feet a day. That well appears to be on the very crest of the anticline but judging by the smaller and varied production of other wells in the same neighborhood and apparently located equally well, the differences of production seem due to differences in the rock texture rather than to position on the structure. None of the wells have as yet been shot.

Among the questions naturally arising in developments such as those about McKeesport are those concerning the possibility of gas in still lower sands, the possibility of oil in the field, and as to the life of the field. Several wells that failed to get a large flow from the Speechley sand are now being driven down to the lower beds. As the Bradford sand is only a few hundred feet below the Speechley, the presence of gas in lower sands should soon be known. It cannot be said definitely that no oil will be found in the field but a glance at an oil and gas map of Pennsylvania will suffice to show that most of the oil found in Allegheny County has come from northwest of a northeast-southwest line through the junction of the Allegheny and Monongahela rivers.

If one-half of the gas wells now projected in the McKeesport gas district are drilled, the immediate field will do well to last two years as a large producer of gas. The life of any field naturally depends on the rate at which oil and gas are withdrawn, leaving out of account drowning by water. A few wells judiciously placed and supplemented from time to time in the McKeesport district might have supplied McKeesport industries for a half century or more, but the present practice of punching the producing sand as full of holes as a colander will inevitably result in the speedy exhaustion of the pool. By extending the drilling to the northeastward a supply may be obtained which will continue to furnish heat for the industries of Buffalo, Cleveland, Cincinnati and other cities for a dozen or a score of years upon a considerable scale.

The Bureau of Topographic and Geological Survey will prepare a structural map of the McKeesport area and in the meanwhile it is requested that drillers keep as accurate a record as possible of the depth at which the several sands are struck and in particular of the Upper Freeport coal, which lies about 170 feet below the top of the sandstone that forms the cliffs along Long Run between the railroad and Walnut Street near the cement bridge.

